



## University Offers Pervasive Indoor and Outdoor Wireless Access throughout Campus

### Executive Summary

#### CUSTOMER NAME

Lingnan University

#### INDUSTRY

Education

#### LOCATION

Hong Kong

#### CHALLENGE

- Offer pervasive indoor and outdoor wireless access
- Improve administrative efficiency
- Enhance network security

#### SOLUTIONS

- Unified Wireless Network provides access points, switches, and control system
- Unified Communications solutions offer call-processing, IP phones, and back-bone switches

#### RESULTS

- Students and staff can access learning systems anywhere on campus
- Management tools streamline network administration and increase productivity
- Security solutions maintain network security across campus

Lingnan University enhances connected learning experience with Cisco Unified Wireless Network and Unified Communications System.

### The Challenge

Lingnan University is the only liberal arts university in Hong Kong characterized by a residential campus with a close faculty-student relationship and an emphasis on exchange and extracurricular learning experiences. The university is fully committed to both quality teaching and research excellence, and aims to cultivate skills and sensibilities that enable graduates to pursue their goals in a rapidly changing social and economic environment.

The university needed to establish a reliable and highly available network to support its teaching, learning, research, and administration, as well as to satisfy the growing demands of tech-savvy students. This group of students are digital natives who will be entering the university under the "334" academic structure, which will see the expansion of facilities and the need for more sophisticated IT infrastructure and support throughout the campus resulting from an increase in the number of students.

To meet the growing demand from students and staff, as well as the ever-changing academic world, comprehensive and flexible IP infrastructure and applications were needed. A range of multichannel communications was also required to facilitate not only student learning, but also the cultural and paradigm shift for Web 2.0 and collaboration for educators.



“Connected Learning solutions contain Cisco and partner technologies and services that support schools, colleges, and universities in executing against the Education 3.0 change model and initiatives. These solutions help educational institutions improve efficiency, enhance safety and security, and create next generation learning environments.”

Barbara Chiu, General Manager of Cisco Hong Kong & Macau

### The Solution

The Cisco vision of Next-Generation Learning, which is to enhance learning, innovation, and research through establishing a flexible, relevant teaching environment that helps students to develop and foster vital 21st century skills such as creativity, critical thinking, problem solving, and collaboration, aligns perfectly with Lingnan’s needs.

“Cisco has a clear vision of helping universities to become more student-centric and globally-focused,” says Professor Jesus Seade, Vice President of Lingnan University. “Coupled with their proven experience, we believe Cisco solutions enable us to create a connected on-demand learning environment where students can interact and access quality education without barriers to communications.”

To fulfill Lingnan’s goal of creating a connected learning environment to address the challenges facing the University, the Cisco® Unified Wireless Network and Cisco Unified Communications System offer a range of industry-leading products and advanced features.

#### Cisco Unified Wireless Network

The Cisco Unified Wireless Network is a cohesive wired and wireless network solution that cost-effectively addresses wireless network security, deployment, management, and control issues, delivering secure, scalable wireless networks with a low total cost of ownership. The Cisco Unified Wireless Network includes the following components.

#### Cisco Wireless Location Appliance

The Cisco Wireless Location Appliance is the industry’s first location solution that simultaneously tracks thousands of devices in a particular WLAN infrastructure. This advanced capability brings the power of a cost-effective, high-resolution location solution to critical applications such as high-value asset-tracking, IT management, and location-based security.

#### Cisco Aironet 1250 802.11a/n and 802.11g/n Access Point and Cisco Aironet 1520 Outdoor Mesh Access Point

The wireless network’s backbone infrastructure of Lingnan University comprises 500 indoor and outdoor access points. Cisco Aironet® 1250 Series wireless access points provide reliable 802.11a/g/n WLAN coverage for indoor environments. These access points offer combined data rates of up to 600 Mbps. Designed for deployment across large areas, Cisco 1520 Series Mesh Access Points provide a flexible, highly secure, and scalable mesh platform for demanding outdoor environments.

“Lingnan University has 500 outdoor and indoor access points that enable users to access learning and administration systems, while sharing information and encouraging interaction anytime, anywhere in the campus with any device.” says Cheung Wai Man, person-in-charge of the Lingnan University network

#### **Cisco Wireless Services Module (WiSM) on Catalyst 6500 Switch**

The Wireless Services Module (WiSM) on Cisco Catalyst® 6500 Series switches provides unparalleled security, mobility, redundancy, and ease of use for critical wireless LANs (WLANs). It enables easy control and management of wireless networks. The Cisco WiSM works in conjunction with Cisco Aironet access points and the Cisco Wireless Control System (WCS) to support mission-critical wireless data, voice and video applications.

#### **Cisco Unified Communications Solutions**

Cisco Unified Communications Solutions unify voice, video, data and mobile applications on fixed and mobile networks, delivering a media-rich collaboration experience across business, government and institutional workspaces.

#### **Cisco Unified Communications Manager**

Cisco Unified Communications Manager is an IP telephony call-processing system that provides traditional telephony features as well as advanced capabilities such as mobility, presence, preference and rich conferencing services. This powerful call processing solution helps simplify the voice system, build productivity, enable mobility and improve collaboration.

#### **Cisco Unified IP Phone 7970/7960G/7911G, Cisco Unified Wireless IP Phone 7921G and Cisco IP Communicator with Cisco IP SoftPhone**

Cisco Unified IP Phones and Cisco Unified Wireless IP help improve productivity by providing a range of convenient and effective ways to communicate and collaborate. Advanced media endpoints in this innovative suite of Cisco Unified IP Phones enhance the end-user experience. Cisco IP Communicator with Cisco IP SoftPhone is a PC-based application that lets users make voice and video calls via the Internet.

#### **Cisco Catalyst PoE 3560 and 2960 Series Switches**

Cisco Catalyst PoE 3560 and 2960 Series switches are fixed configuration switches combining Power over Ethernet (PoE) with Gigabit Ethernet connectivity. The Cisco Catalyst PoE 3560 series is best for LAN access environments where deployment of new applications is required. Cisco Catalyst 2960 Series Intelligent Ethernet Switches with LAN Base software enable entry-level networks to provide enhanced LAN services.



“Our campus is fully connected by Cisco’s end-to-end unified solutions. With this sophisticated and unified IT infrastructure, we are able to provide an exceptional mobile learning experience for both students and staff.” says Dr. Fleming Woo, ITSC Director, Lingnan University.

## The Results

The deployment of the Cisco solutions has made Lingnan University the first among local universities to offer pervasive indoor and outdoor wireless access across its campus and to provide Cisco IP SoftPhone software for most of the students. This deployment enables the university to introduce a brand new learning and collaborative experience.

### Boost Collaboration and Mobility for Staff and Students

Students can now enjoy the benefits of Cisco IP SoftPhone, which is valuable for students especially when abroad, enabling them to easily access learning activities online, and keep in touch with students and professors as well as family members in a most cost-effective way.

### Enhance Learning Experience

Cisco solutions enable Lingnan University to introduce new applications and services, which provide effective and interactive experiences for students. Recently, Lingnan University deployed SunGard DegreeWorks, an academic planning application that helps students spend less time deciphering degree requirements and more time pursuing their academic goals. Its real-time counseling capability helps advisors provide consistent and meaningful direction to students. This capability can stimulate each student’s participation in his or her own study, while professors can contribute more attention to each student.

### Streamline Administration and Increase Productivity

Cisco solutions offer centralized management tools that streamline network deployment, administration, and operations. The Cisco powerful outdoor mesh access points and IP Phone solutions also empower Lingnan University to deliver a cost-effective, scalable, secure wireless network access and communications system that enhances the mobility and productivity of staff. For instance, staff can easily and quickly arrange conference calls with colleagues using a hotkey on the screen of a Cisco IP Phone.

### Secure the Campus Network

The Cisco solutions simultaneously monitor thousands of devices from within the WLAN infrastructure. This capability enhances the university’s network security as unauthorized Wi-Fi devices are spotted on the floor map, helping eliminate security breaches and unsecured WLAN connections.

“Today, technology is playing a core part in quality education,” says Dr. Fleming Woo, ITSC Director, Lingnan University. “Our campus is fully connected by Cisco’s end-to-end unified solutions. With this sophisticated and unified IT infrastructure, we are able to provide an exceptional mobile learning experience for both students and staff.”

“Cisco is dedicated to creating the Next Gen Learning environment for universities,” says Ms. Barbara Chiu, Cisco General Manager for Hong Kong and Macau. “We are pleased to collaborate with Lingnan University and help it transform into a truly connected learning environment. We look forward to working further with the education sector in Hong Kong and raising the educational experience to the next level.”



“The implementation was smooth, and the performance, flexibility, and availability of the Cisco infrastructure helped Lingnan create a robust communications platform with high durability,” says Dr. Woo

### Next Steps

The highly scalable, flexible infrastructure of Cisco solutions enable Lingnan University to further strengthen its edge in education and technology by deploying more innovative applications. To look ahead, Lingnan University aims to nurture an online knowledge-based helpdesk that supports the exchange of information among students, staff, and researchers.

Lingnan University plans to implement solutions to enhance the business intelligence process, which will facilitate the decision-making process at the management level for more administrative efficiency.

Also in the pipeline is a plan for the use of Unified Threat Management solutions that can provide all-round information security to the campus such as firewall, intrusion prevention, secure VPN, and content security functions.

And, core to the university’s plan in further leveraging on the infrastructure in place, is an aim to identify ways to further enhance every student’s satisfaction, which is of prime importance to the provision of quality education in society today.

### Technical Implementation

The Lingnan University campus includes 19 clusters of academic, recreational, and hostel buildings and facilities. The backbone of the Cisco Unified Wireless Network and Unified Communications System architecture has been deployed across the whole campus, which has enabled the development of a number of new applications for innovative and effective teaching and learning activities by teachers and students.

“The implementation was smooth, and the performance, flexibility, and availability of the Cisco infrastructure helped Lingnan create a robust communications platform with high durability,” says Dr. Woo

## Product List

### Wireless

- Cisco Wireless Location Appliance
- Cisco Aironet 1250 802.11a/n and 802.11g/n Access Points
- Cisco Aironet 1520 Outdoor Mesh Access Points
- Cisco Wireless Services Module (WiSM) on Catalyst 6500 Switch

### Unified Communications

- Cisco Unified Communications Manager
- Cisco Unified IP Phone 7970/7960G/7911G, Cisco Unified Wireless IP Phone 7921G, and Cisco IP Communicator with Cisco IP SoftPhone
- Cisco Catalyst PoE 3560 and 2960 Series Switches

## For More Information

To find out more about Cisco wireless solutions, go to:

<http://www.cisco.com/web/HK/products/wireless.html#~solutions>

To find out more about Cisco unified communications solutions, go to:

[http://www.cisco.com/web/HK/solutions/unified\\_index.html](http://www.cisco.com/web/HK/solutions/unified_index.html)



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